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Space technology in the GIS-assessment of suburban development in Kazan city

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved. The complex research of conditions and factors of forming and country building development of the Russian city conducted in work both in retrospective, and at the present development stage allowed to reveal a series of regularities. Work is based on creating a series of GIS-maps with space technologies use which display dynamics of Kazan country building change for two extensive historical periods (from 12th century the 20th century; from the second half of the 20th century till present) in software ArcGIS. For creating the physical map of the Kazan residential suburb pictures of SRTM (Shuttle radar topographic mission) of the official site of United States Geological Survey [1] method were used by radar interferometry. Besides, in work the experience of geoportal application of the Kazan (Volga) federal university activemap.kpfu.ru in a cartographical research of the Kazan country building which allowed to create additional GIS-maps of cottage building of the territory for its further economic evaluation is provided. In work four primary factor groups which influence forming the Kazan country building are allocated: natural (the territory is subject to various exogenous processes, such as erosion, abrasion, flooding, bogging, karsts and suffosion, sag of soil), social and economic (historical aspects and level of market prices of the territory), technical (capacities of municipal infrastructure), ecological (recreational potential of the territory).

Keywords

Geoportal, GIS, Residential construction, Space technology, Suburban development